PEACE/WILLISTON
FISH & WILDLIFE
COMPENSATION
PROGRAM

BC hydro

BRITISH
COLUMBIA

A Reconnaissance Survey Of Chudnuslida Lake

M. J. Hunter
March 1997

PWFWCP Report No. 171

The Peace/Williston Fish & Wildlife Compensation Program is a cooperative venture of BC Hydro and the provincial fish and wildlife management agencies, supported by funding from BC Hydro. The Program was established to enhance and protect fish and wildlife resources affected by the construction of the W.A.C. Bennett and Peace Canyon dams on the Peace River, and the subsequent creation of the Williston and Dinosaur Reservoirs.

Peace/Williston Fish and Wildlife Compensation Program, 1011 Fourth Ave. 3rd Floor, Prince George B.C. V2L 3H9

Website: *www.bchydro.bc.ca/environment/initiatives/pwcp/*

This report has been approved by the Peace/Williston Fish and Wildlife Compensation Program Fish Technical Committee.

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105-02086/

A RECONNAISSANCE SURVEY OF

CHUDNUSLIDA LAKE

WATERSHED:	**Parsnip River**
DATE OF SURVEY:	**October 17 - 18, 1996**
FIELD CREW LEADER:	**Mark Hunter**
FIELD ASSISTANT:	**Karin Mathias**
REPORT PREPARED BY:	**Mark Hunter**

BRITISH COLUMBIA CONSERVATION FOUNDATION

PEACE / WILLISTON FISH AND WILDLIFE COMPENSATION PROGRAM

B. C. MINISTRY OF ENVIRONMENT, LANDS AND PARKS

FUNDED BY: FOREST RENEWAL BRITISH COLUMBIA

RELEASED BY: _____

D. J. Cadden, Regional Fisheries Biologist

LAKE: Chudnuslida Lake **SYSTEM NAME:** Parsnip River

A.S.A.P. REFERENCE NO.: **WATERSHED CODE: 236-2201-223-155-005**

DATA ON FILE FOR THIS SURVEY

Location	X	Dissolved 02 / Temp. Profiles	X
Physical Data	X	Winter Dissolved 02 / Temp. Profiles	--
Bench Mark	X	Netting Record	X
Terrain Features	X	Lake Catch Summary	X
Access	X	Individual Fish Data	X
Resorts and Campsites	X	Fish Preserved	--
Other Developments	X	Stomach Analysis	X
Obstructions and Pollutions	X	Scale Reading	X
Special Restrictions	X	Location of Inventory Sites	X
Aquatic Plants	X	Photograph Directory	X
Wildlife Observations	X	Appendices	
Miscellaneous Comments	X	A: Water Chemistry Analysis	X
Lake Drainage	X	B: Fish Scale Analysis	X
Fisheries Management Comments	X	Bathymetric Map Reduction	X
History of Previous Surveys	X	Bathymetric Map	--
Water Chemistry Summary	X		

LOCATION

Location:	approximately 56 km southeast of Mackenzie		
Elevation:	840 m ± 30 m	U.T.M.:	10.527552.6085146
Latitude / Longitude:	54°54'45" 122'34'13"	N.T.S. Map No.:	93 - J / 15
Management Unit:	7-23	Biogeoclimatic Zone:	Sub-Boreal Spruce
Ecoprovince:	Sub-Boreal Interior	Ecoregion:	Fraser Basin
Ecosection:	McGregor Plateau		

Drainage: Unnamed C. --> Unnamed C. -->, Chudnuslida C. --> Reynolds C. --> Parsnip R. --> Williston Reservoir (Parsnip Reach) --> Peace R.

PHYSICAL DATA

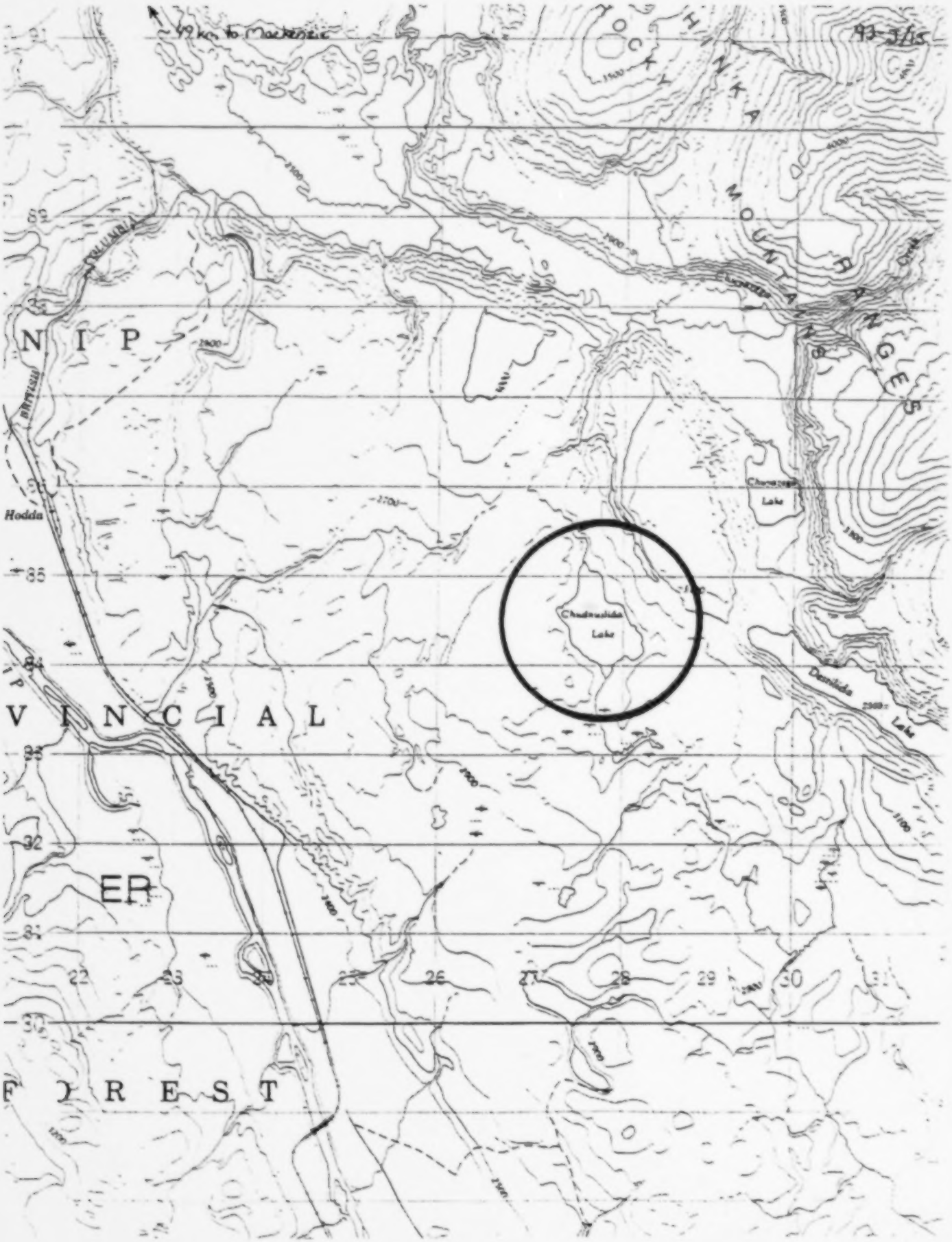
Lake Drainage Area:	4.8 km^2	Volume:	3 358 249 m^3
Water Surface Area:	510 222 m^2	Perimeter of Islands:	0 m
Area Above 6 m Contour:	250 728 m^2	Number of Islands:	0
Shoreline Perimeter:	3 557 m	Mean Depth:	6.6 m
Maximum Depth:	16.2 m	Secchi Reading:	4.05 m
Filterable Residue (TDS):	40 mg/L		

Sounding Device: Lowrance X-15 Elevation Source: Contour Interpolation

BENCHMARK

(Iron spike, center of red circle) located 2.0 m above present water level in a 26 cm diameter spruce tree that is 2.25 m from the present water's edge and located in the north end of the lake on the west side of the mouth of the outlet (Plate # 4).

High Water Mark: 0.0 m above water level at time of survey (see Miscellaneous Comments)


~99 km to Mackenzie
93-J/15
MOUNTAINS
RANGES
Chandindu Lake
Chandindu Lake
Dendida Lake
Hodda
N I P
V I N C I A L
F O R E S T
ER

LAKE: Chudnuslida Lake

TERRAIN FEATURES

Immediate Shoreline:

Chudnuslida Lake is fronted on most sides by a growth of sedge grasses and alders, with spruce and fir trees growing behind on low slopes. The exception to this is along the southeast side of the lake; this section of the shoreline has sedge grasses, alders and spruce trees growing right down to the water's edge. As well, along the northeast side of the lake, there is a marsh overgrown with alders. There is also a sedge grass swamp located in the south corner of the lake.

The substrate along most of the shoreline of Chudnuslida Lake is composed of silts and organics over fines and gravels. The exceptions are in the north end, and in the east and south corner of the lake, where the substrate is composed of silts and organics. Along the east side of Chudnuslida Lake, the lake's bottom has a moderate slope from the lake's edge towards the middle of the lake. Around the rest of the lake, the lake's bottom has a moderately steep slope towards the center of the lake.

There are three beaver lodges located on Chudnuslida lake - two on the middle of the east shore, and one in the west corner of the lake. As well, there is an abundant amount of large woody debris found on all sides of the lake, with most of it in the north end of the lake.

Surrounding Country:

To the north, east and west of Chudnuslida Lake, the forest has been logged. In some places, there was almost no Riparian Management Zone left. Low hills are found directly to the north and east that fall steeply away approximately 1.0 km from the lake. To the west, the terrain is composed of rolling hills. To the south of Chudnuslida Lake, there is a mature forest of spruce and fir trees growing on low rolling hills. A logging road crosses the outlet approximately 50 m north of the lake. Chudnuslida Lake is situated within the Sub-Boreal Spruce biogeoclimatic zone.

LAKE: Chudnuslida Lake

ACCESS

Directions:

From the community of Bear Lake, travel north on Highway 97 for approximately 16 km, then turn right on to the 2000 Logging Road. Drive for approximately 6 km on the 2000 Road, and continue on the 800 Road for approximately 43 km. Turn right on to a logging road, and drive for approximately 6 km to a clear cut located on the north side of Chudnuslida Lake. The total distance from Bear Lake to Chudnuslida Lake is approximately 71 km.

Road Type and Conditions:

Highway 97 is a well-maintained, two lane provincial highway that is easily traveled with all vehicle types. The 2000 Road and the 800 Road are both well-maintained, two lane gravel logging roads that can be easily traveled during the summer months with a two-wheel drive vehicle. The logging road that leads into Chudnuslida Lake is a rough one lane gravel road that can be traveled with a two-wheel drive truck during good weather. Under poor weather conditions, a four-wheel drive vehicle is recommended.

Restrictions:

None known.

RESORTS AND CAMPSITES

There are no resorts or campsites located on Chudnuslida Lake.

OTHER DEVELOPMENTS

There was a hunter's camp consisting of a truck canopy and fire pit located near the mouth of the outlet. As well, there was a bird box located on the east side of the lake near the east corner of the lake.

OBSTRUCTIONS AND POLLUTIONS

The south end of the lake near the mouth of the outlet is full of large woody debris.

LAKE: Chudnuslida Lake

SPECIAL RESTRICTIONS

None known.

AQUATIC PLANTS

The following aquatic plants were identified during the time of the survey:

sedge grasses Equisetum

WILDLIFE OBSERVATIONS

The following wildlife or signs were seen during the time of the survey:

moose unidentified ducks
chickadees

MISCELLANEOUS COMMENTS

1) The culvert located on the outlet approximately 50 m downstream of Chudnuslida Lake has been plugged by beavers so that the lake cannot be properly drained. This has caused the lake level to rise, and thus, no high water mark was found. Along the southeast shore of the lake, the normal lake level, shown by undercut banks, was found to be under approximately 15 cm of water.

2) There was a large amount of large woody debris, especially in the north end of the lake, that could be hazardous to boaters.

3) Bathemetic map: The lake outline was drawn from an enlargement of air photo 30 BC 88036: No. 244, flown July 20, 1988.

LAKE: Chudnuslida Lake

LAKE DRAINAGE

General:

Chudnuslida Lake is fed by three inlets, one on the east side of the lake, and one in each of the south and east corners of the lake. The outlet drains Chudnuslida Lake to the north, and flows for approximately 6.1 km to join an unnamed creek. This creek flows for approximately 0.1 km to drain into Chuyazega Creek, which runs west for approximately 3.2 km to join Reynolds Creek. Reynolds Creek flows for approximately 10.7 km to it's confluence with the Parsnip River.

Major Systems:

There are no major systems.

Minor Systems:

Inlet # 1 - Unnamed Creek

Inlet # 1 enters Chudnuslida Lake in the middle of the east shore of the lake. The first 100 m of the creek is heavily braided through a marsh area that is overgrown by alders and willows. Upstream of 100 m from the lake, the channel becomes more defined and has an average wetted width of 0.7 m and depth of 0.1 m, and is overgrown by alders and grasses. The substrate is composed of silt and organics. Inlet # 1 had no fisheries potential during the survey period.

Inlet # 2 - Unnamed Creek

Inlet # 2 enters Chudnuslida Lake in the east comer of the lake (Plate # 5). Over the first 70 m upstream of the lake, the creek has an average wetted width of 8.0 m and depth of 0.55m. The banks are overgrown by sedge grasses and alders with spruce and fir trees growing behind. The substrate is composed of silts and organics with lots of large woody debris fallen into the channel. Approximately 70 m upstream of the lake, there is a 0.75 m high beaver dam that is probably not passable to upstream fish movement at the time of the survey due to lack of sufficient flow over the top of the dam. Upstream of the dam, there is a pond that is 30 m by 30 m, and approximately 1.0 m deep. Approximately 100 m upstream of Chudnuslida Lake, there is a second beaver dam that is 1.25 m high (Plate # 6). There was probably not enough flow over the top of the dam to allow for upstream fish passage at the time of the survey. There is a large pond located upstream of the second beaver dam that is approximately 1.5 m to 2.0 m deep. A large beaver hut is located on the north side of the pond. This pond is fed by channels that flow through a large swamp located upstream of the pond. Inlet # 2 had no fisheries potential during the survey period.

LAKE: Chudnuslida Lake

Inlet # 3 - Unnamed Lake

Inlet # 3 enters Chudnuslida Lake in the south comer of the lake through the swamp located in that end of the lake (Plate # 7). Over the first 20 m upstream of the lake, the channel has an average wetted width of 8.0 m and depth of 1.25 m. The substrate is composed of silts and organics. From 20 m to 120 m upstream of the lake, the channel is braided through the swamp. The average wetted width and depth of the braids is 1.0 m and 0.4 m respectively. The substrate is composed of silts and organics. There are eleven beaver dams located over this stretch of the creek; the first five dams are flooded over, and the remaining 6 beaver dams are smaller in height than normal because of the flooding caused by the culvert on the Outlet Creek being plugged. Approximately 120 m upstream of Chudnuslida Lake, there is a beaver dam that is 1.1 m high and approximately 45 m long (beaver dam # 12 - Plate # 8). There was probably not enough flow over the top of the dam to allow for upstream fish passage at the time of the survey. This dam has created a pond and large swamp on the upstream side (Plate # 9). Inlet # 3 had no fisheries potential during the survey period.

Outlet - Unnamed Creek

The outlet drains Chudnuslida Lake out of the north end of the lake (Plate # 10). Over the first 50 m downstream of the lake, the channel has an average wetted width of 10 m and depth of 1.5 m. The substrate is composed of silts and organics with a large amount of large woody debris in the channel. Approximately 50 m downstream of the lake, the creek would normally flows through a 36 inch culvert (Plate # 11 & # 12). However, the culvert has been plugged by beavers so that the amount of water flowing through the culvert is extremely limited. Downstream of the road crossing, the channel has an average wetted width of 1.0 m and a maximum depth of 0.4 m (Plate # 13). The substrate is composed of fines over gravels and small cobble with lots of large woody debris in the creek. There are five beaver dams located over the first 60 m of the outlet downstream of the road crossing. These beaver dams average 0.4 m high. The channel is confined to a valley that is approximately 10 m to 12 m across at the top. The outlet provided some very limited salmonid spawning habitat during the survey period.

LAKE: Chudnuslida Lake

FISHERIES MANAGEMENT COMMENTS

Chudnuslida Lake supports a small population of rainbow trout that could sustain a low use fishery. The rainbow trout in this lake appear to be fairly healthy - only four of the fifteen rainbow trout caught in the overnight experimental gill net had worms in the stomach. The only suitable spawning habitat found was in the outlet creek. However, beavers had plugged a culvert located approximately 50 m downstream of the lake that now prevents any fish passage from the lake to the spawning habitat. As well, it appeared that there could be excellent spawning habitat found downstream of Chudnuslida Lake in Chuyazega Creek, but again, access is prevented by the plugged culvert. In addition to the rainbow trout population, there are also populations of longnose suckers, largescale suckers, lake chub and sculpins. There is a good location for a Forest Recreation Site on the north end of the lake near the outlet creek; the logging immediately around the lake does detract from the aesthetic value of the lake.

HISTORY OF PREVIOUS SURVEYS

Lake Surveys:

A previous Lake Inventory was completed on Chudnuslida Lake on September 6, 1976, at which time the lake was accessed by a float plane. During this inventory, it was noted that the surrounding country, except for along the south side of the lake, had been burned and reforested by willows and alders with some young spruce, lodgepole pine and paper birch. During the recent survey, it was noted that the forest surrounding Chudnuslida Lake had not changed much.

Also during this inventory, it was noted that there was only one inlet feeding into Chudnuslida Lake. Since the location of the inlet was not indicated in the report, it is not known which of the two inlets that were looked at during the recent inventory was the one mentioned in the older report.

Finally, during the first inventory completed in 1976, four bull trout and nine rainbow trout were caught between two monofilament net sets, one floating and one sinking, that were set for five hours each. During the recent inventory, only rainbow trout were caught in one experimental monofilament sinking net set that was left overnight. However, the recent inventory was completed during the fall months during which time bull tout are usually in the streams spawning. This could explain why bull trout were not caught.

However, with the surrounding forest having been burned off, the conditions in the lake may have changed so that they no longer favour a bull trout population. As well, with the forest cover burned off, there would be more water evaporating from the exposed land and less water entering the lake in the form of subsurface flow. This might have lowered the flows in the outlet to the point that bull trout may no longer be able to spawn successfully in the outlet. With the removal of overhead cover from the outlet (only

location found to contain any spawning habitat), the stream temperature may now be higher than previously, which would make the conditions undesirable to spawning bull trout. A final suggestion is that bull trout may have only used Chudnuslida Lake as a rearing area before moving downstream to live as adults in Chuyazega Creek, Reynolds Creek or Parsnip River. After the burn, the outlet from Chudnuslida Lake may have become impassable to upstream fish movement due to deadfall accumulation in the creek so that juvenile bull trout could no longer reach Chudnuslida Lake to use as rearing habitat.

In addition to the lack of bull trout in Chudnuslida Lake, populations of both longnose suckers and largescale suckers were found. In the previous report, there was no indication that the lake was inhabited by a population of suckers.

The population size of the rainbow trout in Chudnuslida Lake has not changed, as shown by the number of fish caught per unit of effort. However, there has been an increase in the average length and weight of all whole rainbow trout population. Whether or not there has been an increase in the length and weight by age cannot be determined as the rainbow trout sampled in 1976 were not aged.

	1976	1996
No. RB Caught In Gill Net	9	15
No. Hours Net Was Fishing	10:00 hrs	14:49 hrs
No. Caught / Hour Fishing	0.90 fish / hr	1.01 fish/ hr
Average Size Of RB	25.4 cm	27.6 cm
Average Weight Of RB	193.9 g	311.3 g

Other Related Studies:

None known.

LAKE: Chudnuslida Lake

WATER CHEMISTRY SUMMARY **Limnology Station No. 1**

Field Conditions:

Date:	October 18, 1996		
Time:	1245 hrs	Air Temperature:	0 °C
Wind Velocity:	5 - 10 km/h	Wind Direction:	from the north
Cloud Cover:	10 / 10 o.c.	Surface Conditions:	small waves
Secchi Disc:	4.05 m	Water Colour:	clear with tannic colour

Method Used:

Dissolved Oxygen:	YSI Model 57 Oxygen / Temperature Meter
Water Temperature:	YSI Model 57 Oxygen / Temperature Meter
Air Temperature:	Hand-Held Alcohol Thermometer
pH (field):	Digital pH Pocket Tester
H2S (field):	Hach H2S Field Test Kit
Laboratory Used:	Pacific Environmental Science Center
Water Sampler:	Vertical Alpha Water Bottle (Vandorn)
Metal Sampler:	By Hand; Preserved With 2.0 mL Nitric Acid
Substrate Sampler:	Substrate Sample Not Taken

Water Sample Chemistry: **SEAM Site No.:** E 223142

	Sampling Depths	
	Surface (0.5 m)	Lower (15.0 m)
Alkalinity (lab)	mg / L	mg/L
Filterable Residue 105°C (lab)	mg/L	mg/L
H2S (field)	N/A	0.0 mg / L
Nitrogen - Total (lab)	mg/L	mg/L
Non-Filterable Residue (lab)	mg/L	mg/L
pH (field)	5.8	5.7
pH (lab)		
Phosphorus - Total Dissolved (lab)	mg/L	mg/L
Specific Conductance (lab)	µS / cm	µS / cm

Bottom Depth: 16.1 m

Substrate Sample Depth: N/A

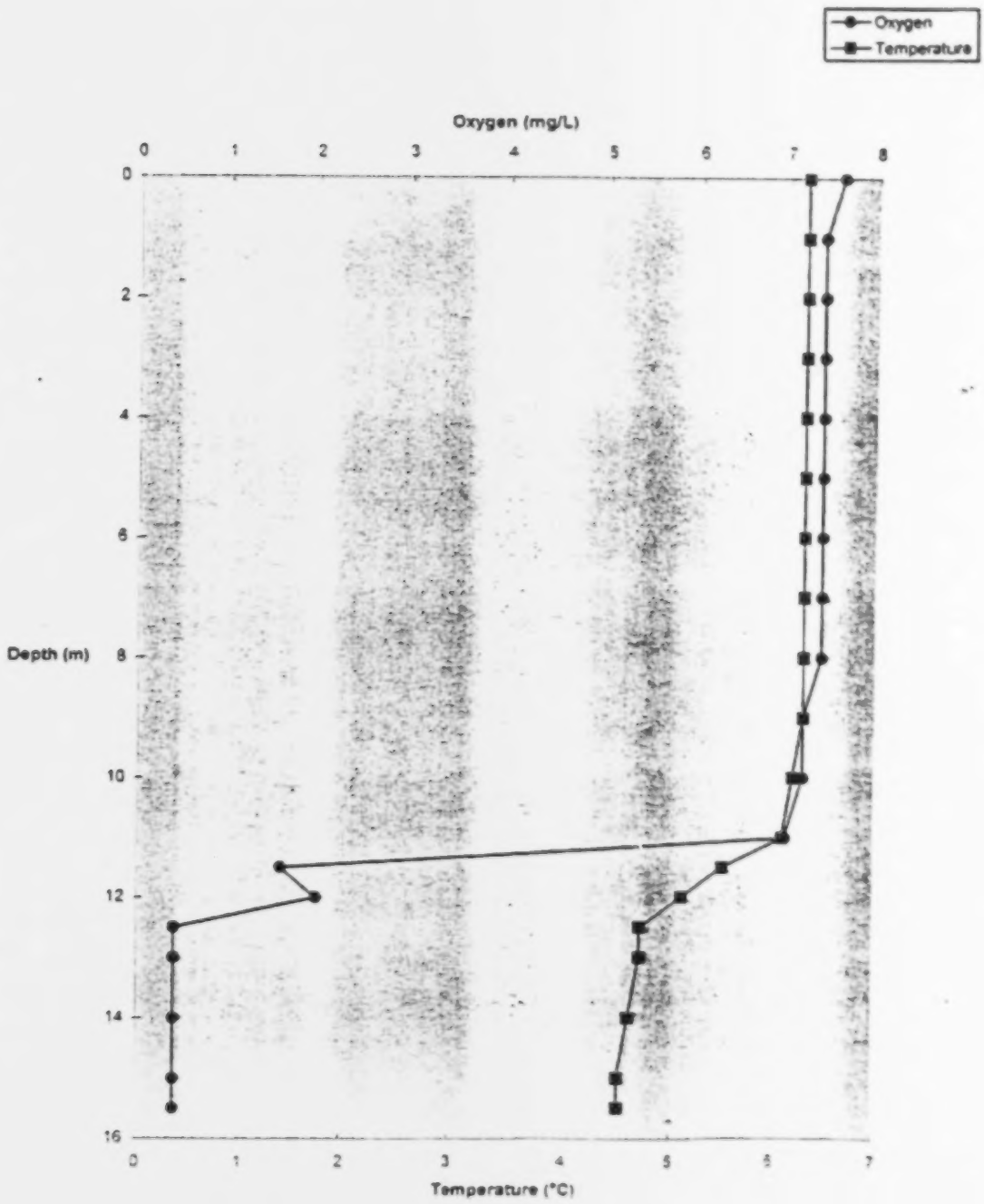
* additional analyzed parameters and results, including metals, are found in Appendix 1

LAKE: Chudnuslida Lake

FALL OXYGEN / TEMPERATURE DATA

DEPTH (m)	02 (mg/L)	TEMPERATURE (°C)
Surface	7.6	6.3
1.0	7.4	6.3
2.0	7.4	6.3
3.0	7.4	6.3
4.0	7.4	6.3
5.0	7.4	6.3
6.0	7.4	6.3
7.0	7.4	6.3
8.0	7.4	6.3
9.0	7.2	6.3
10.0	7.2	6.2
11.0	1.6	6.1
11.5	2.0	5.5
12.0	0.4	5.1
12.5	0.4	4.7
13.0	0.4	4.7
14.0	0.4	4.6
15.0	0.4	4.5
15.5	0.4	4.5
16.1	Bottom	

FALL OXYGEN / TEMPERATURE PROFILE



LAKE: Chudnuslida Lake

NETTING RECORD

Mesh Size Experimental Order: 25, 76, 51, 89, 38, 64 mm

NETTING SITE # 1

Type:	Sinking Monofilament Gill Net			
Date Set:	October 17, 1996		Time:	1843 hrs
Date Lifted:	October 18, 1996		Time:	0926 hrs
Net Dimensions:	Length:	91.4 m	Depth:	2.4 m
Shallow End Mesh Size:	25 mm		Depth:	1.4 m
			Substrate:	woody debris over gravels
Deep End Mesh Size:	64 mm		Depth:	8.0 m
			Substrate:	silt / organics

Comments: Net started approximately 4.5 m from the shore.

LAKE CATCH SUMMARY

Species	Netting Site No. 1	Angled	Other	Total	Number Sampled	Number Preserved	Size Range (cm)
RB	15	0		15	15	0	16.5-33.2
LNS	66	0	0	66	0	0	16.5-36.4
CSU	4	0		4	0	0	16.2-35.4
LKC	1	0	0	1	0	0	10.1

Minnow Traps:
Bait: Sardines

Trap No.	Hours	Depth (m)	Substrate	Species	No. Caught	Size Range (cm)
1	14:51	1.3	silt / organics	empty	0	-
2	14:53	1.0	woody debris over fines	empty	0	-
3	14:54	0.9	organics over gravels	empty	0	-
4	14:55	1.2	aquatic veg. over organic debris	CC	1	9.6

LAKE: Chudnuslida Lake

INDIVIDUAL FISH DATA

Date Captured: October 18, 1996

Method: Sinking
Monofilament
Gillnet

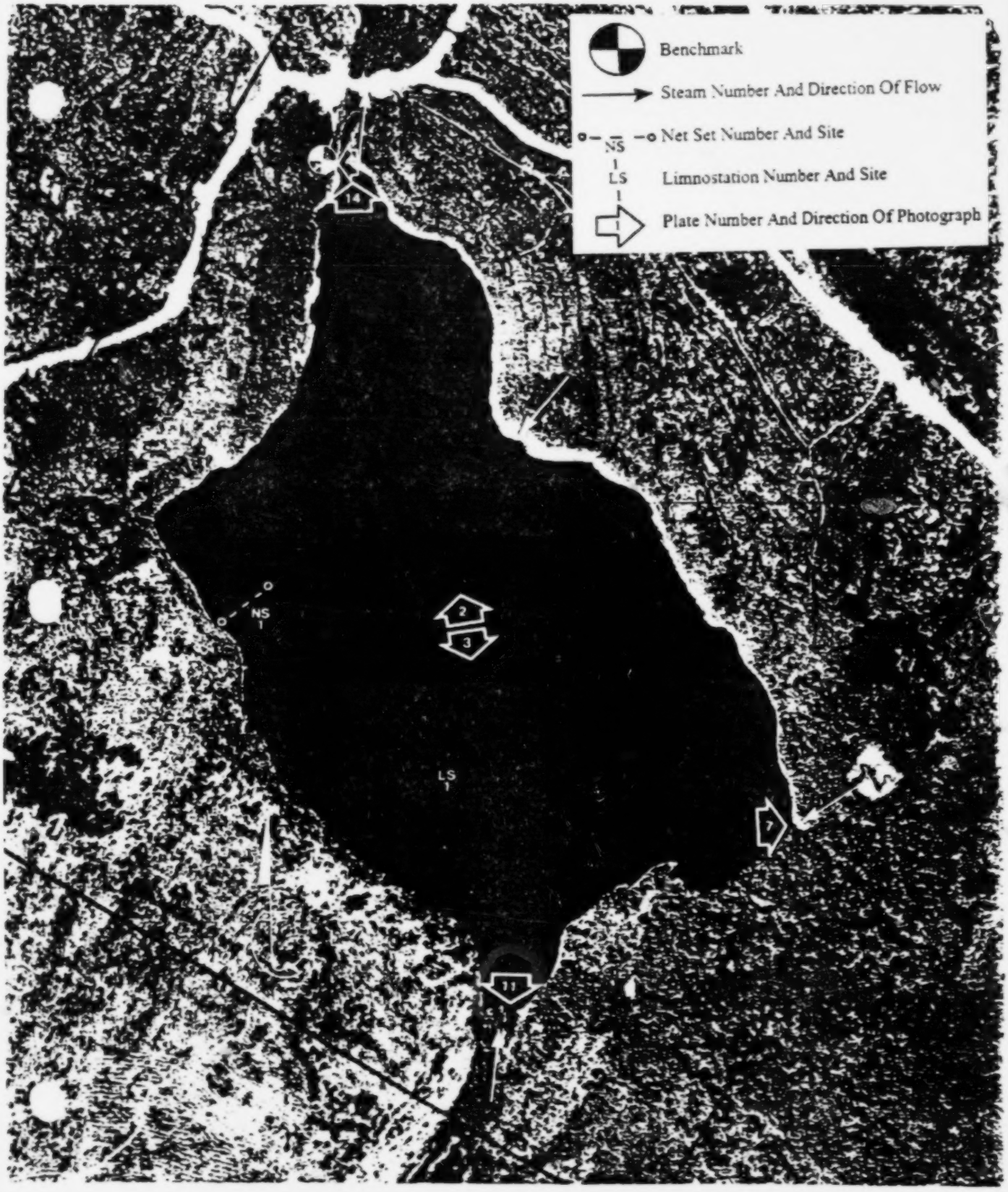
M - Male
F - Female
? - Not Obvious

IMM - Immature
MG - Maturing
MT - Mature
GV - Gravid
SP - Spent
? - Not Obvious

EG - Egg
FR - Fin Ray
HD - Head
ML - Milt
OT - Otolith
SC - Scale

Species	Fork Length (cm)	Weight (grams)	Sex	Gonadal Maturity	Sample Type	Age (yr)	Stomach Contents				Comments
							Plankton	Insects	Fish	Other	
RB	33.2	413	M	MG	SC	2+	Ch				TW in St
RB	30.9	341	M	MG	SC	2+				empty	TW in St
RB	31.8	377	M	MG	SC	2+				empty	
RB	31.3	371	M	MG	SC	2+				empty	
RB	32.6	393	M	MG	SC	2+				empty	
RB	30.6	341	F	MG	SC	2+				empty	
RB	30.7	288	M	MG	SC	3+	Ch				
RB	31.9	284	M	IMM	SC	3+	Da				TW in St
RB	30.7	304	F	MG	SC	3+				empty	
RB	33.2	335	M	MG	SC	3+				empty	TW in St
RB	32.4	384	M	MG	SC	4+				empty	
RB	32.4	412	M	IMM	SC	2+				empty	
RB	28.9	307	M	IMM	SC	2+	Ch				
RB	18.5	69	M	IMM	SC	1+				empty	TW in St
RB	16.5	51	M	IMM	SC	1+	Da				

B - Beetle
C - Clams
CF - Caddis Fly
Ch - Chaoborus
Cr - Chironomids
Da - *Daphnia*
Di - Diptera
G - *Gammerus*
L - Leech
Li - Lice
O - Organics
S - Snails
St - Stomach
TW - Tape Worm
WB - Water Boatman
WF - Whole Fish


Benchmark
Steam Number And Direction Of Flow
NS
1
Net Set Number And Site
LS
1
Limnostation Number And Site
Plate Number And Direction Of Photograph
NS
1
LS
1
2
3
7
11

LAKE: Chudnuslida Lake

PHOTOGRAPH DIRECTORY

Plate	Roll : Number	Description
1	38: 21	Aerial view of Chudnuslida Lake looking north. Note the clear cuts located to the north, east and west of the lake.
2	40: 22 - 24	Panoramic view of Chudnuslida Lake looking north from the center of the lake.
3	40: 19 - 21	Panoramic view of Chudnuslida Lake looking south from the center of the lake.
4	40: 17	View of the benchmark located 2.0 m above present water level in a 26 cm diameter spruce tree that is 2.25 m from the present water's edge and located in the north end of the lake on the west side of the mouth of the Outlet Creek.
5	39: 10	View of the mouth of Inlet # 2 where it enters Chudnuslida Lake in the east corner of the lake.
6	39: 17	Upstream view of beaver dam # 2 on Inlet # 2, located approximately 100 m upstream of Chudnuslida Lake. Dam height is 1.25 m. Note the beaver hut in the background that is located in the pond on the upstream side of beaver dam # 2.
7	39: 1	View of the mouth of Inlet # 3 where it enters Chudnuslida Lake in the south corner of the lake.
8	39: 8	Upstream view of beaver dam # 12 on Inlet # 3, located approximately 120 m upstream of Chudnuslida Lake. Dam height is 1.1 m.
9	39: 2 - 4	Panoramic view of the pond located on Inlet # 3 on the upstream side of beaver dam # 12, taken approximately 120 m upstream of Chudnuslida Lake.
10	40: 18	View of the mouth of the outlet where it drains Chudnuslida Lake from the north end of the lake.
11	40: 16	Downstream view of the road crossing on the outlet, located approximately 50 m downstream of Chudnuslida Lake. Note that the mouth of the culvert cannot be seen since the lake level is higher than the culvert.

LAKE: Chudnuslida Lake

12	40:15	Upstream view of the culvert on the outlet, taken approximately 65 m downstream of Chudnuslida Lake.
13	40: 13	Downstream view of the outlet from the top of the road crossing, taken approximately 55 m downstream of Chudnuslida Lake.

LAKE: Chudnuslida Lake

Plate # 1: Aerial view of Chudnuslida Lake looking north. Note the clear cuts located to the north, east and west of the lake.

LAKE : Chudnushda Lake

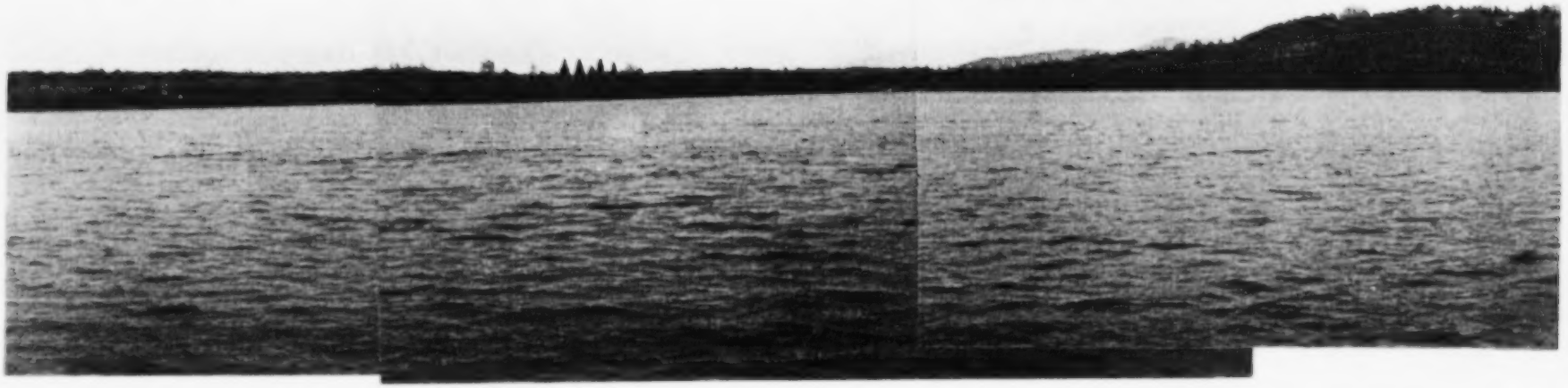


Plate # 2: Panoramic view of Chudnushda Lake looking north from the center of the lake

LAKE: Chudnuslida Lake

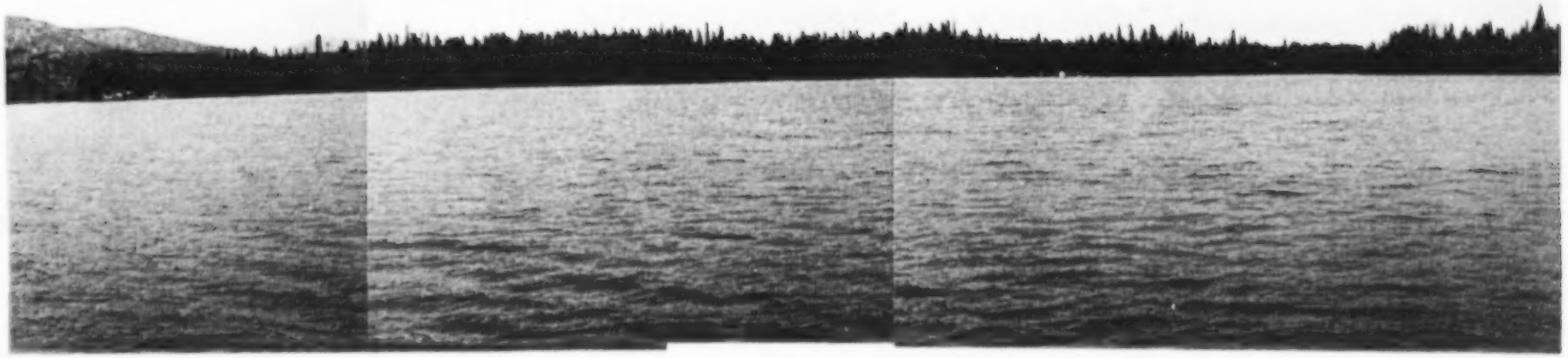


Plate # 3: Panoramic view of Chudnuslida Lake looking south from the center of the lake

LAKE: Chudnuslida Lake

Plate # 4: View of the benchmark located 2.0 m above present water level in a 26 cm diameter spruce tree that is 2.25 m from the present water's edge and located in the north end of the lake on the west side of the mouth of the Outlet Creek.

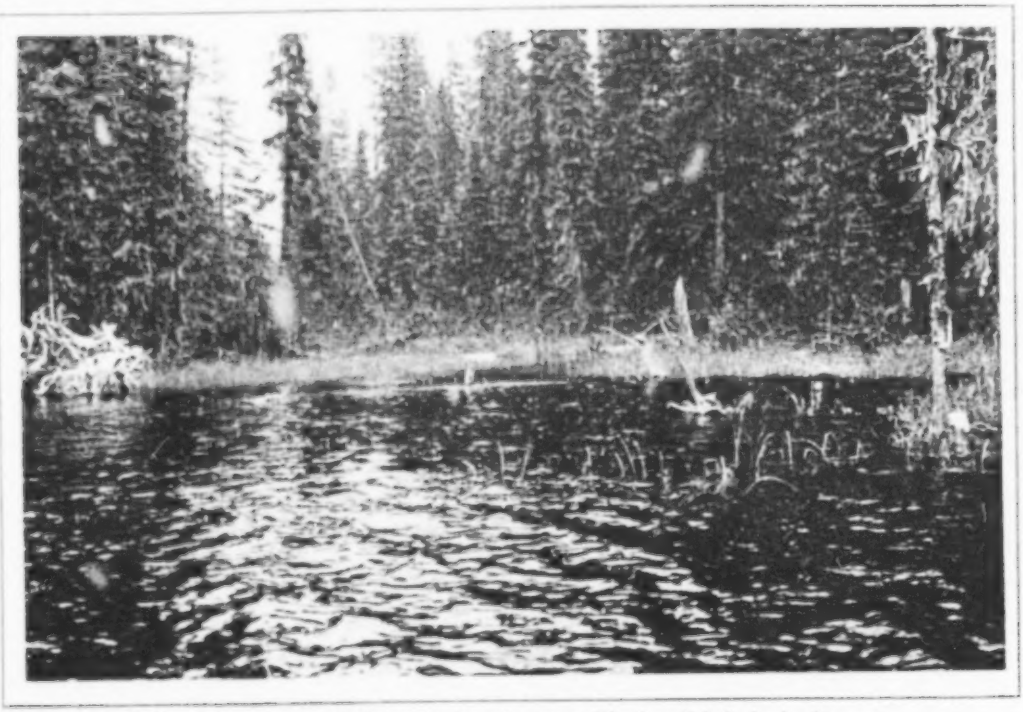


Plate # 5: View of the Mouth of Inlet # 2 where it enters Chudnuslida Lake in the east corner of the lake.

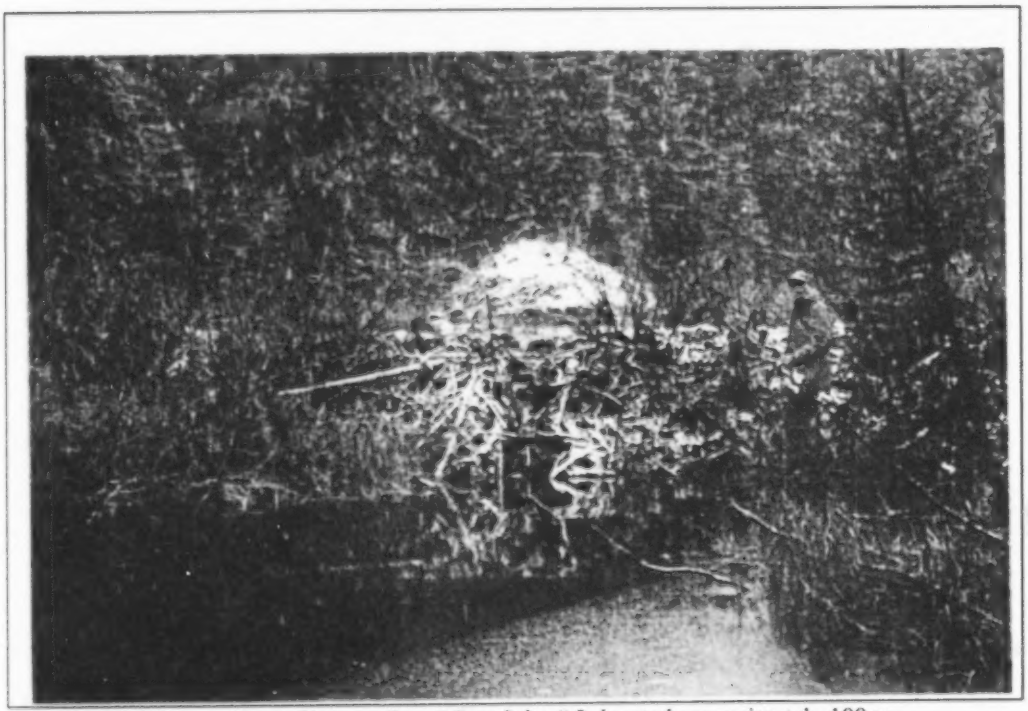


Plate # 6: Upstream view of beaver dam # 2 on Inlet # 2, located approximately 100 m upstream of Chudnuslida Lake. Dam height is 1.25 m. Note the beaver hut in the background that is located in the pond on the upstream side of beaver dam # 2.

LAKE: Chudnuslida Lake

Plate # 7: View of the mouth of Inlet # 3 where it enters Chudnuslida Lake in the south corner of the lake.

Plate # 8: Upstream view of beaver dam # 12 on Inlet # 3, located approximately 120 m upstream of Chudnuslida Lake. Dam height is 1.1 m.

LAKE: Chudnuslida Lake

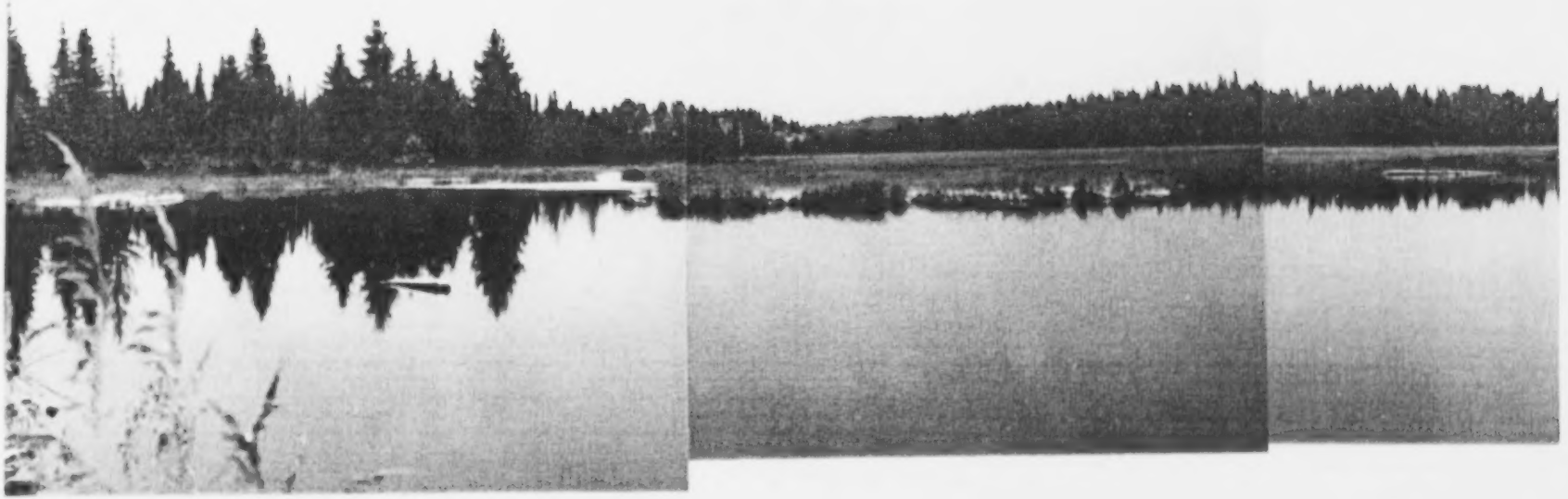


Plate # 9: Panoramic view of the pond located on Inlet # 3 on the upstream side of beaver dam # 12, taken approximately 120 m upstream of Chudnuslida Lake.

LAKE: Chudnuslida Lake

Plate # 10: View of the mouth of the outlet where it drains Chudnuslida Lake from the north end of the lake.

Plate # 11: Downstream view of the road crossing on the outlet, located approximately 50 m downstream of Chudnuslida Lake. Note that the mouth of the culvert cannot be seen since the lake level is higher than the culvert.

LAKE: Chudnuslida Lake

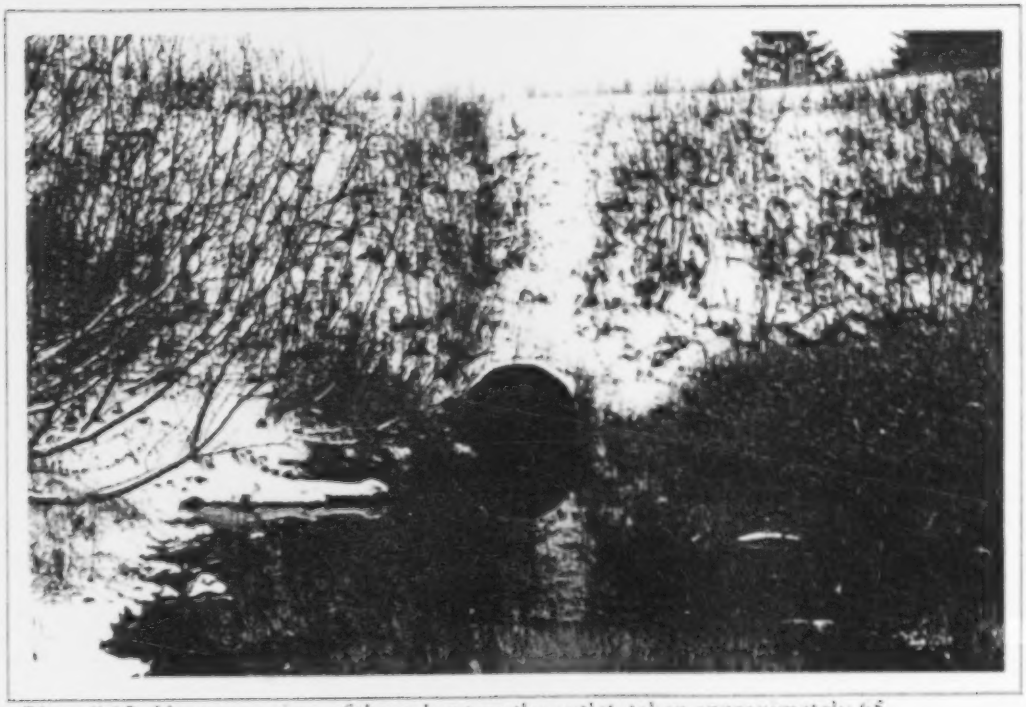


Plate # 12: Upstream view of the culvert on the outlet, taken approximately 65 , downstream of Chudnuslida Lake.

LAKE: Chudnuslida Lake

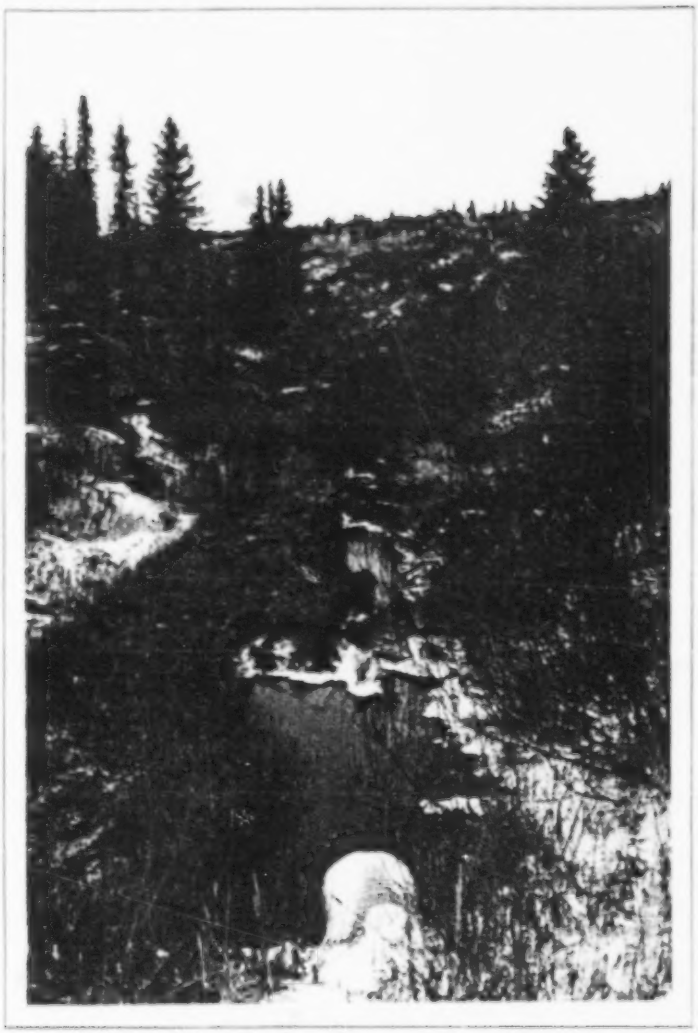


Plate # 13: Downstream view of the outlet from the top of the road crossing, taken approximately 55 m downstream of Chudnuslida Lake.

Appendix A

LABORATORY REPORT

Water Chemistry Analysis

RESULTS FOR CHUDNUSLIDA SAMPLES

Parameter Analyzed		Units	965873-001	965873-002
ALKALINITY		mg/l	20.9	27.0
CONDUCTIVITY		uS/cm	48	62
METALS/TOTAL (WATER-ICP)	AG	mg/l	<.01	-
	AL	mg/l	.06	-
	AS	mg/l	<.06	-
	B	mg/l	<.01	-
	BA	mg/l	.008	-
	BE	mg/l	<.001	-
	CA	mg/l	7.2	-
	CD	mg/l	<.006	-
	CO	mg/l	<.006	-
	CR	mg/l	<.006	-
	CU	mg/l	<.006	-
	FE	mg/l	.16	-
	K	mg/l	.3	-
	MG	mg/l	1.1	-
	MN	mg/l	.029	-
	MO	mg/l	<.01	-
	NA	mg/l	.6	-
	NI	mg/l	<.02	-
	P	mg/l	<.1	-
	PB	mg/l	<.06	-
	SB	mg/l	<.06	-
	SE	mg/l	<.06	-
	SI	mg/l	.68	-
	SN	mg/l	<.06	-
	SR	mg/l	.025	-
	TI	mg/l	<.002	-
	V	mg/l	<.01	-
	ZN	mg/l	.007	-
NITROGEN/AMMONIA		mg/l	.012	.173
/NITRITE		mg/l	<.002	<.002
/NITRITE+NITRATE		mg/l	.017	.022
/TOTAL		mg/l	.34	.58
PH		Rel.U.	7.17	6.64
PHOSPHORUS/O-PO4		mg/l	<.001	.001
/TOTAL		mg/l	.005	.015
/TOTAL DISSOLVED		mg/l	<.002	.002
RESIDUE/FILTERABLE		mg/l	40	50
/NON-FILTERABLE		mg/l	<5	<5
BC CLIENT STUDY CODE			20	20
SAMPLING AGENCY		EMScode	91	91
SITE IDENTIFIER/NUMBER			E223142	E223142
COLLECTION START DATE		y/m/d	96/10/18	96/10/18
UPPER DEPTH		metres	0.5	15
TEMPERATURE ON ARRIVAL		deg.C	3	3

Appendix B

FISH SCALE ANALYSIS

Age Determination Completed By:

A.M.C. Technical Services Ltd.
Melinda M. Hirst
6809 Phillip Road.
Lantzville, B.C.
VOR 2HO

SEE ORIGINAL COPY

FOR SCALE SAMPLE READINGS

ORIGINAL COPY IS HELD BY

B. C. MINISTRY OF ENVIRONMENT, LANDS AND PARKS

PRINCE GEORGE, B. C.

Appendix C

BATHYMETRIC MAP

Reduced to
34%
of Original Size

STATISTICS AT TIME OF SURVEY

Elevation	840	m.
Surface Area	510232	sq.m.
Area above Ice contour	256738	sq.m.
Volume	1154249	cu.m.
Mean Depth	4.6	m.
Maximum Depth	16.2	m.
Perimeter, Mean Shore	3317	m.
Perimeter, Islands	0	m.
Reach Mark	2.0	m.

PREPARED FOR: Ministry of Environment, Lands and Parks; Dr. Jeremy Pedersen, B.C. Conservation Foundation

Chudnuslida Lake

WATERSHED CODE 230-330-323 111-000 | 1:50,000 SHEET 093 H/12 | 10 12711 6951 10

MAP No. 93 | PLOT DATE Jan 27 1997 | DRAWN J. Tan

DIGITIZED Computer | REVISION DATE

SURVEYED J.M.P. | APPROVED Don Cowan | NTS No. 093H/12

FILM 1961A